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Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Comments Regarding Proposed Greenhouse Gas Regulation Changes

Dear CARB Board Members:

Baker Hughes Inc. (BHI) appreciates the opportunity to discuss our concerns regarding CARB's adoption of a new regulation for greenhouse gas emissions (GHG) from heavy duty trucks and engines. In the past few years, CARB has approved a wide ranging regulation from the Truck and Bus Regulation (Truck Regs) to the Off-Road Regulation (Off-Road Regs). The Truck Regs are phased in over several years with the start in 2010 and the final compliance date of 2023. The Truck Regs required fleets to install PM filters on vehicles currently in-use today and a future vehicle replacement in eight years. BHI has demonstrated its responsibility by complying with all the regulations.

The proposal that was presented in March 2013 by Staff discusses the need to 'harmonize' with the Federal Governments' emission standards in order to have more nationwide consistency. However, California may see a need to exercise its' authority to make California Regulations for 'medium and heavy duty' diesel vehicles more stringent than the US EPA's standards. In-so-far-as the Staff wanting to harmonize with the Federal Standard; it should be noted that the current 2010 MY Certified Standard for NOx [e.g., Detroit Diesel is certified to .09 g/bhp-hr] exceeds Federal Standard of .1 g/bhp-hr which begins in 2014.

Throughout the proposal the words 'voluntary', 'optional', 'harmonize' are used consistently throughout the proposal. This gives the notion that we as stakeholders have an option. However, starting in 2004 manufacturers met an 'optional emission standards' for NOx and NMHC that were substantially lower than the primary NOx + NMHC emission standard. Local air districts were able to 'preferentially' provide funding to the purchasers (stakeholders) of cleaner trucks. Regardless of preferential funding we were **mandated to comply** with the 'optional emission standard'.

The proposal introduced indicates the 'Optional' Low NOx Emission Standards for new heavy-duty vehicle engines are more challenging than the current 2010 MY engine emissions standards. This is based on the fact mentioned in the proposal that there is no method in place to certify the 'optional' emission standard.' The proposal introduced lowers the current 2010 NOx emission certification standard of **.2 g/bhp-hr** to the 'optional' emission standard of .1 g/bhp-hr in 2015, .05 g/bhp-hr in 2016, and .02 g/bhp-hr in 2017. This suggests a reduction in NOx emissions from 50% to 90% from the current standard, for a net reduction of 3% or .18 g/bhp-hr. However, let's look at the year 1990. The NOx engine certification standards were at 6 g/bhp-hr., and the current standard at .2 g/bhp-hr, engine manufacturers have reduced NOx emissions by 97%. Essentially, the new proposal suggests this reduction in NOx emissions since 1990 of 97% appears to be of no value.

In the proposal it was noted that the diesel engine manufacturers are certifying to a level below the 2010 NOx standard, which is less than 0.03 – 0.14 g/bhp-hr. This is a true fact and here is a small list to document the fact: Cummins certified to .12, Volvo certified to .09, Detroit Diesel certified to a .09 and Ford Motor certified to .07. In effect, engines manufactured today are certified by CARB to have NOx emission 30% to 65% below the 2010 standard. CARB does not recognize their own certified values listed on the executive orders. Therefore, based on the aforementioned information what is the need for new 'optional emission standards'?

Also, the proposal introduced the reason someone would want to purchase the optional lower NOx engines was the Carl Moyer grant program which would fund incremental cost of cleaner than required engines. Most of the larger fleets in CA cannot take advantage of the grant funding. In addition, CARB stated fleets would have incentives for purchasing trucks with lower NOx engines to comply with the 2023 turnover requirement. Then why not extend incentives for 2010 engines that are certified to values below the standard?

Although the words optional or voluntary were mentioned many times as cited before, the future of the Truck and Bus Regulation could be amended to make the rule more stringent. BHI's concern is that the rule will be modified with no inference to fleet owners as the costs increase to reach a higher standard and the regulation is mandated.

During the years 2004 and 2006 the proposal stated (several times) that fleets should attain 100% compliance with the 2010 MY standard in 2023; **fleet compliance would therefore be complete.** With the adoption of the regulation in 2008 fleet owners have been developing strategies to comply with the regulation. Secondly obtaining this goal, millions of dollars will have been spent on diesel particulate filters and the purchase of new vehicles to be compliant by 2023.


The proposal states that the associated cost of engine manufacturing is dependent on emission levels of the base engine. The cost will range anywhere from 0-6,000 dollars per engine and it was mentioned this cost is minimal. As a matter of fact when the 2010 MY on-road engine standards were changed to the current standard, stakeholders experienced a **45% increase in the cost of new trucks**. This increase was the result of engine emission changes to the current emission standard of .2 g/bhp-hr. NOx. Also as a consequence of the NOx Emission levels, some on-road engine manufacturers have stopped producing on-road engines or just got out of the market. Other manufacturers are using credits to remain in the marketplace for now. What will be the future cost to reduce emission levels to an additional 0.18 g/bhp-hr? The staff report did not mention the cost of Research & Development and mark-up by the manufactures; so to mention that the proposed regulations will have **minimal** economic impact on business due to the voluntary option of the proposed regulation is misleading.

As to the ATCM (Airborne Toxic Control Measure) to limit Diesel-fueled Vehicle Idling putting the onus on vehicle owners and motor carriers, BHI agrees that the current 'idling' regulation has helped greatly in reducing emissions. And BHI has instituted a program for reduction of idling vehicles. However BHI believes that the responsibility of obeying the Idling policy should be the responsibility of the vehicle driver, and any fines for not obeying the policy should also be the driver's responsibility. As an example of how wrong fining the company would be: If you rented a car and ran through several photo enforced red lights, they would send the tickets to the rental agency. Should they be responsible for the fines or should you the person that rented the car be responsible for the fines?



In summary, the Oil Industry has a long standing history of leadership in environmental compliance along with a commitment of continuous improvement. Therefore BHI is requesting that the Staff & the Board takes these suggestions and comments under careful consideration during the adoption process. BHI would also like assurance from Staff that the 'Truck and Bus' regulation will not be amended to **mandate the new optional NOx standards in the future**. BHI suggests that CARB use the certified values listed on the executive orders in modeling NOx emission on all CARB's regulations. Lastly, our concern is CARB will mandate the replacement of all 2010 standard trucks to the new cleaner 2017 standards in the future. So again, we as stakeholders are questioning why not extend incentives for 2010 engines that are certified to values below the standard?

If you have any questions or require additional information on this matter, please contact me at 661-342-9707 or by Douglas.VanAllen@bakerhughes.com

Thank you for your consideration, 

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